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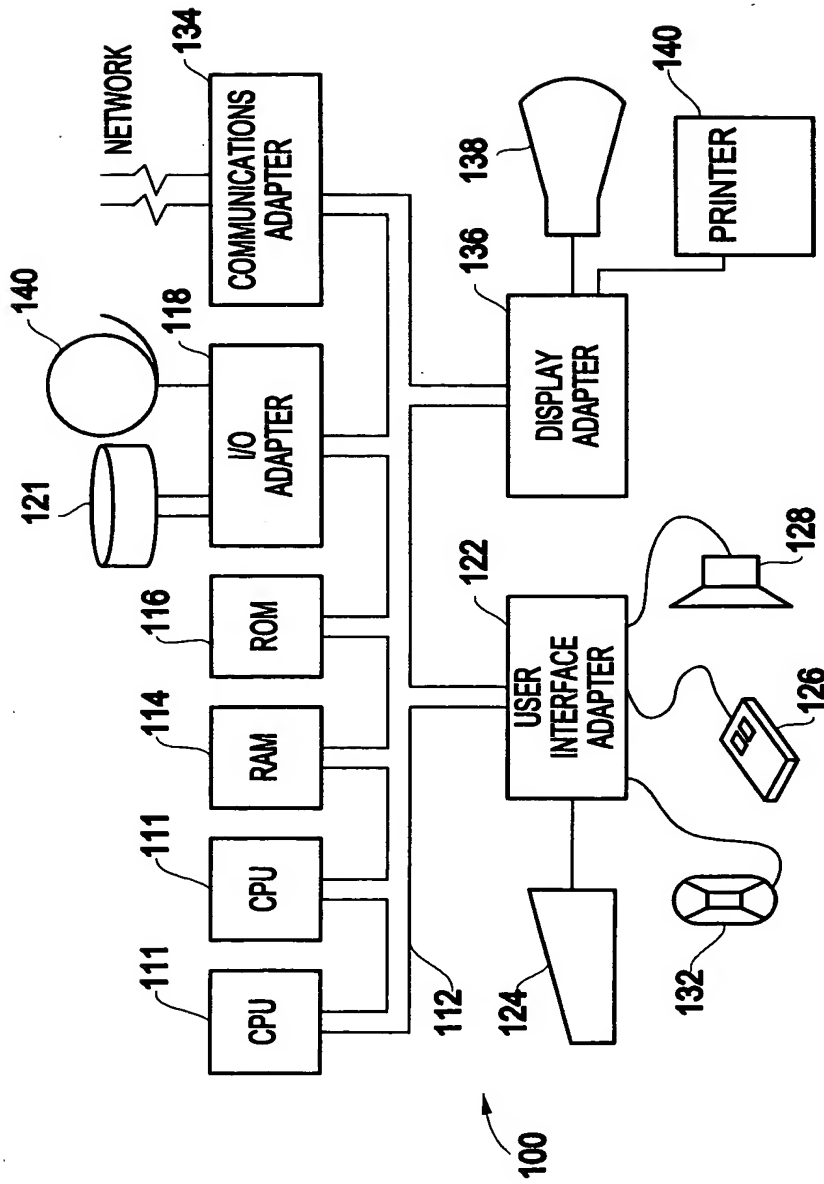


FIG. 1

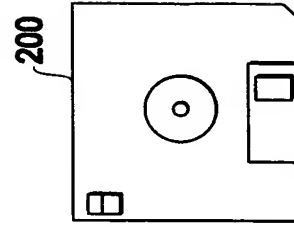
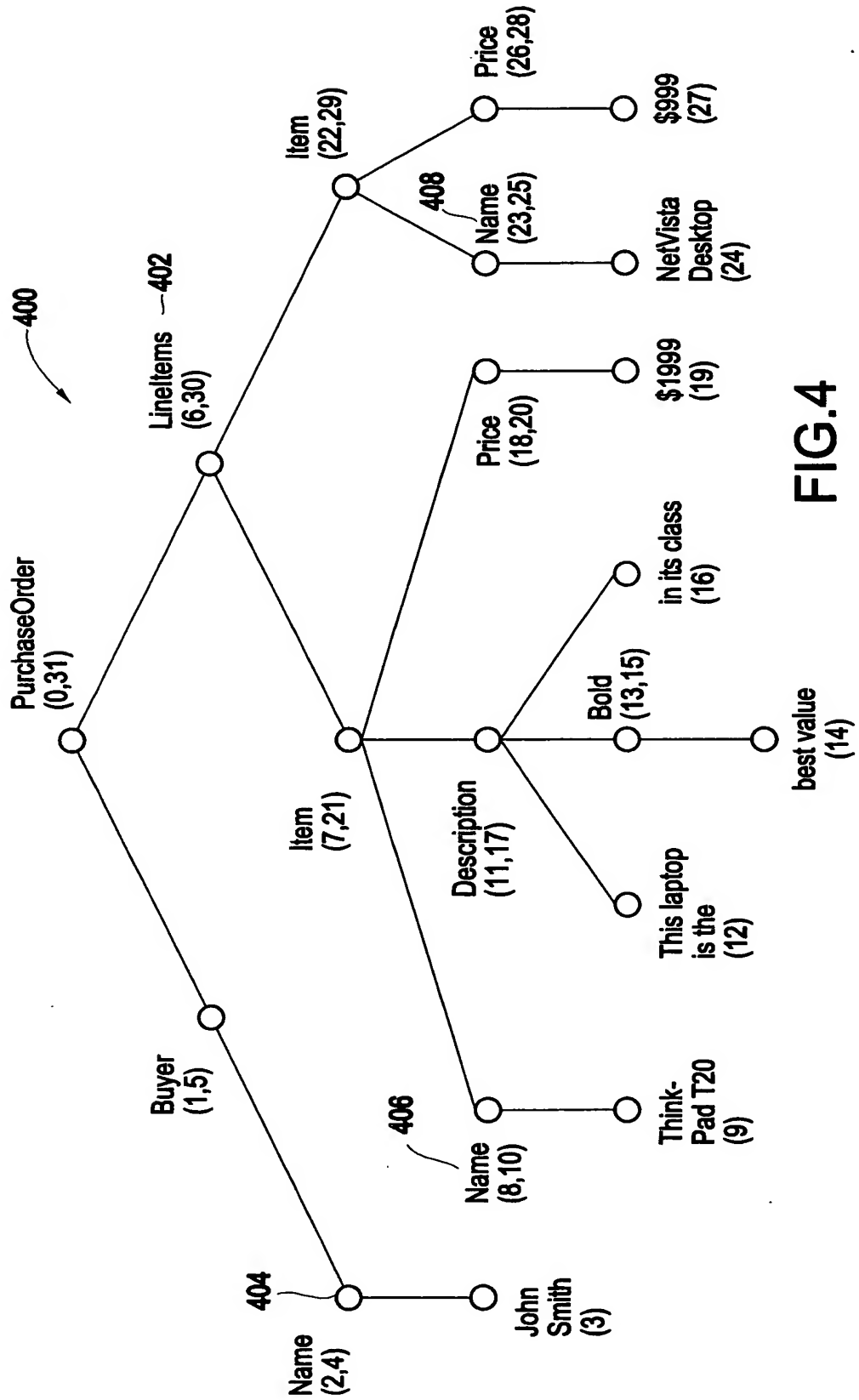
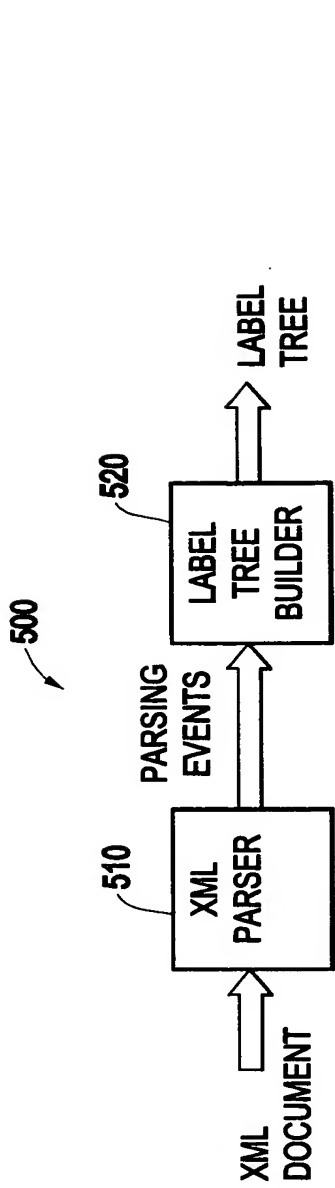


FIG. 2

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<PurchaseOrder>
  <Buyer>
    <Name>John Smith</Name>
  </Buyer>
  <LineItems>
    <Item>
      <Name>ThinkPad T20</Name>
      <Description>
        This laptop is the <Bold>best value</Bold> in its class
      </Description>
      <:Price>$1999</Price>
    </Item>
    <Item>
      <Name>NetVista Desktop</Name>
      <:Price>$999</Price>
    </Item>
  </LineItems>
</PurchaseOrder>
```

FIG.3





BUILDING THE LABEL TREE IN BULK-LOADING MODE

FIG.5

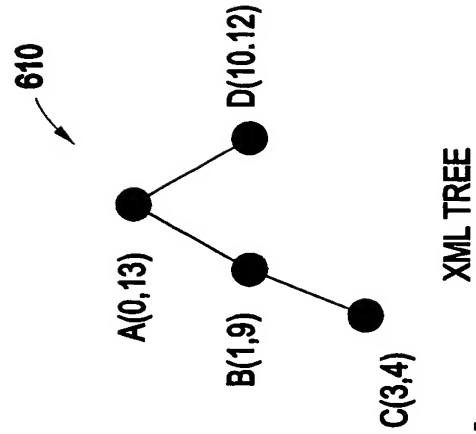


FIG.6A

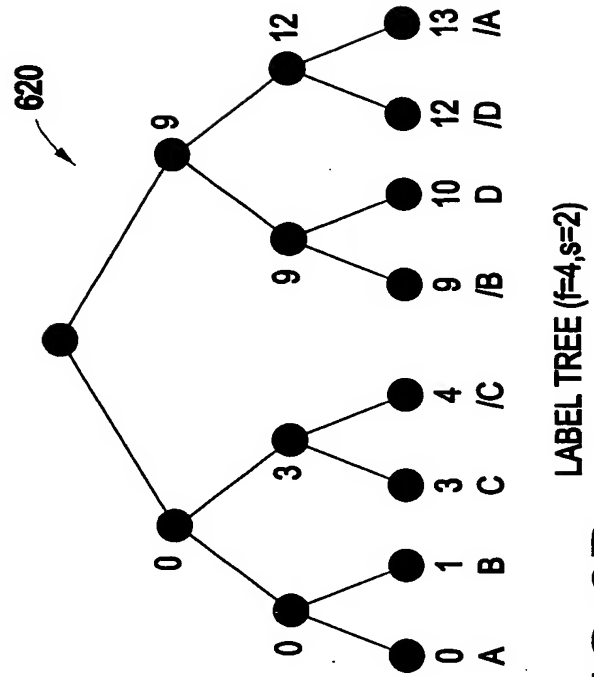
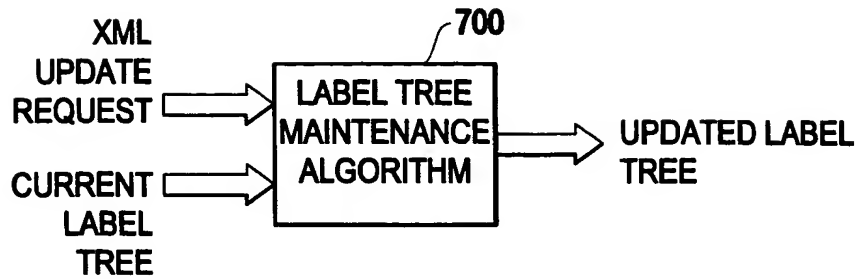
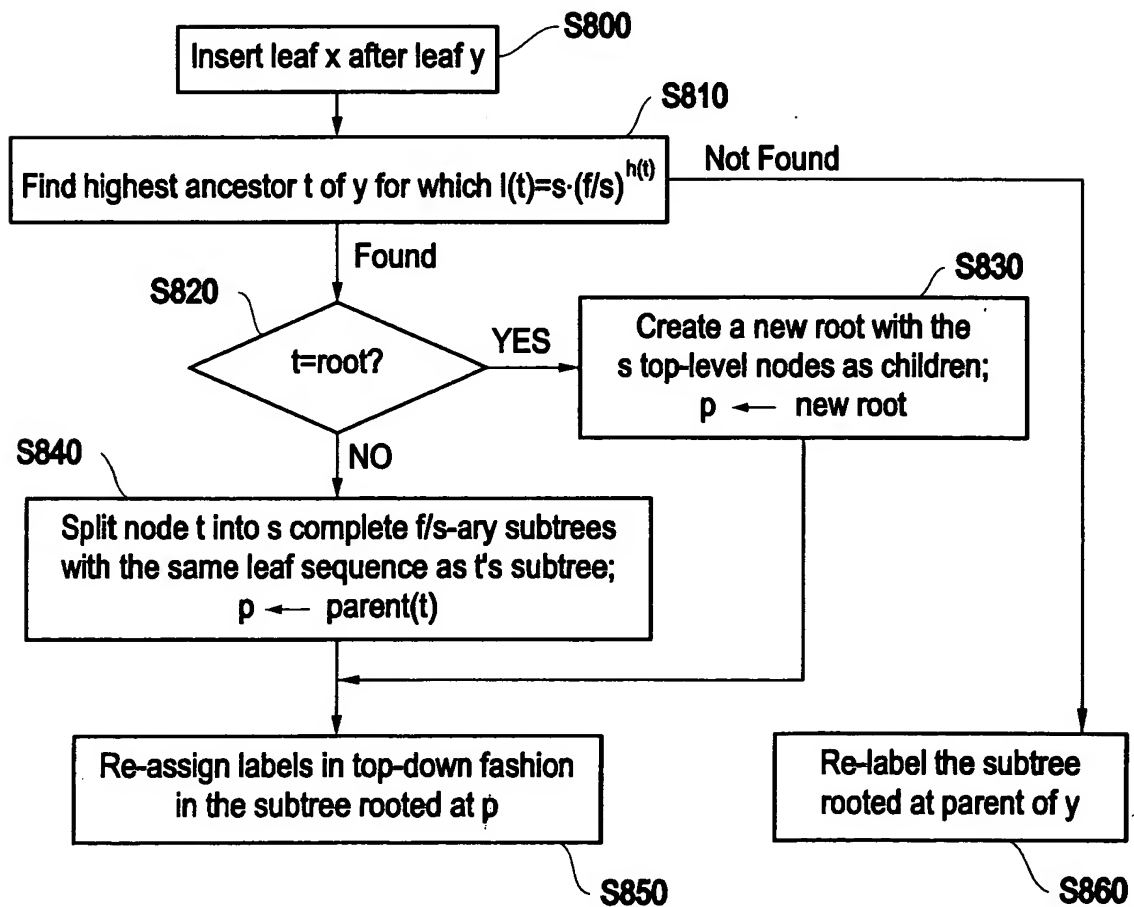


FIG.6B



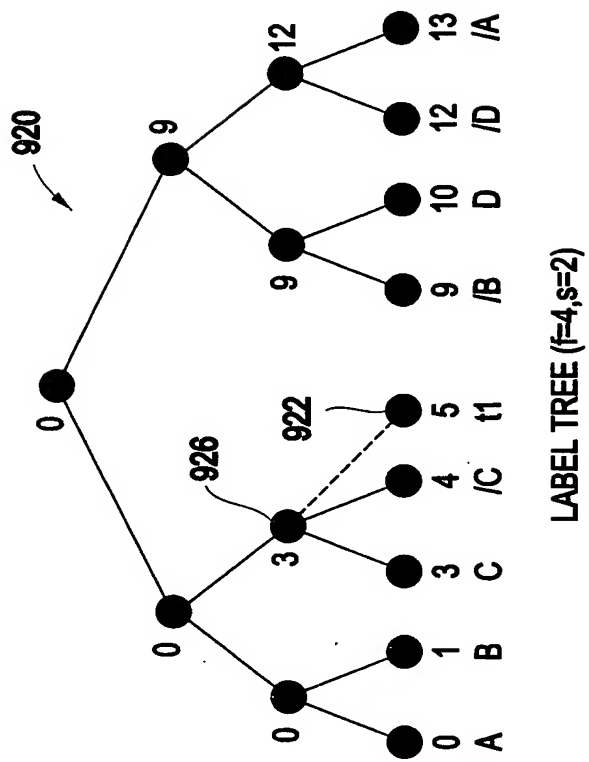
MAINTAINING THE LABEL TREE IN RESPONSE TO UPDATES

FIG.7



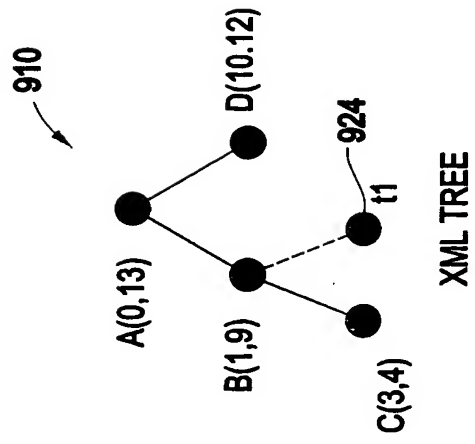
LABEL TREE MAINTENANCE ALGORITHM

FIG.8



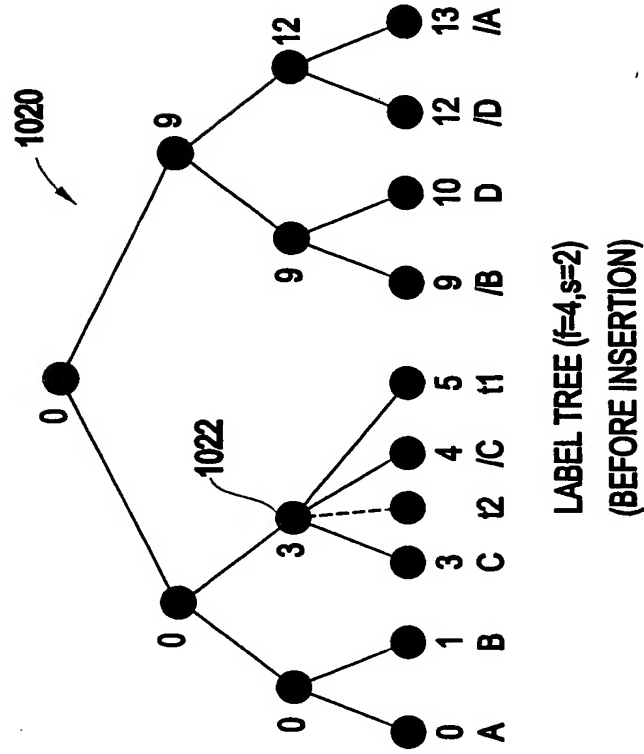
LABEL TREE ($f=4, s=2$)

FIG.9B



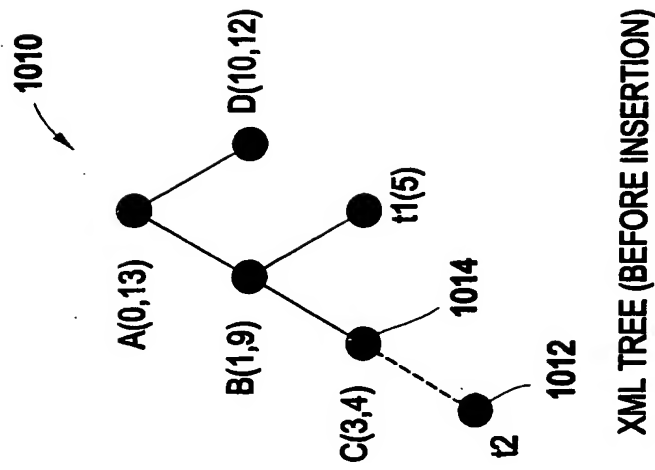
XML TREE

FIG.9A



LABEL TREE ($f=4, s=2$)
(BEFORE INSERTION)

FIG.10B



XML TREE (BEFORE INSERTION)

FIG.10A



FIG. 10D



FIG. 10C

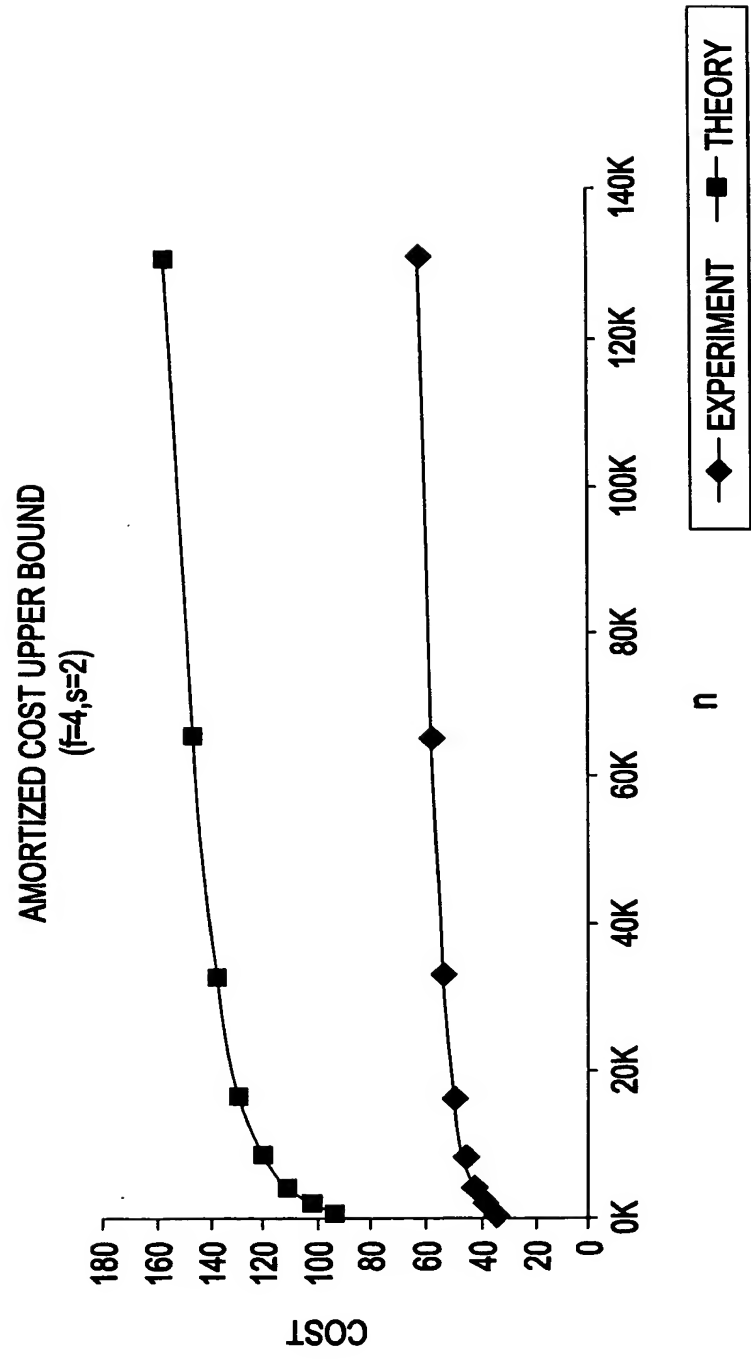


FIG.11

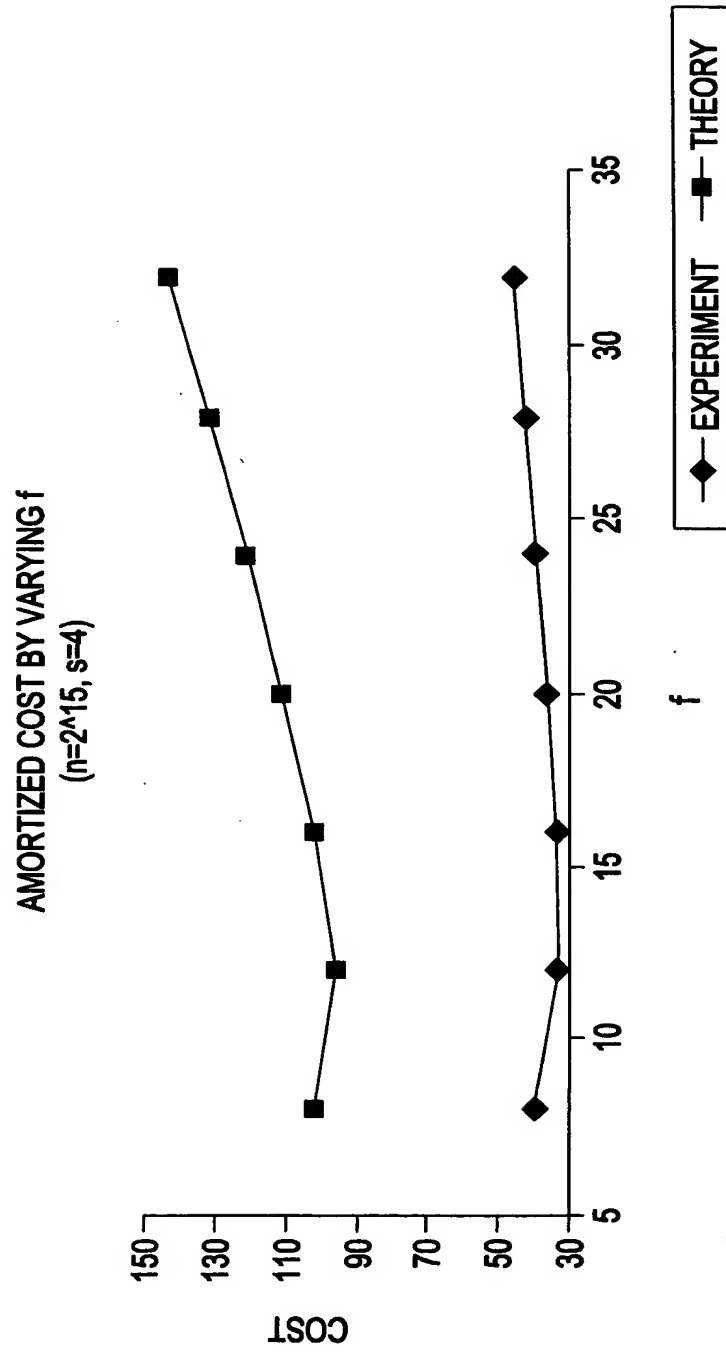


FIG.12

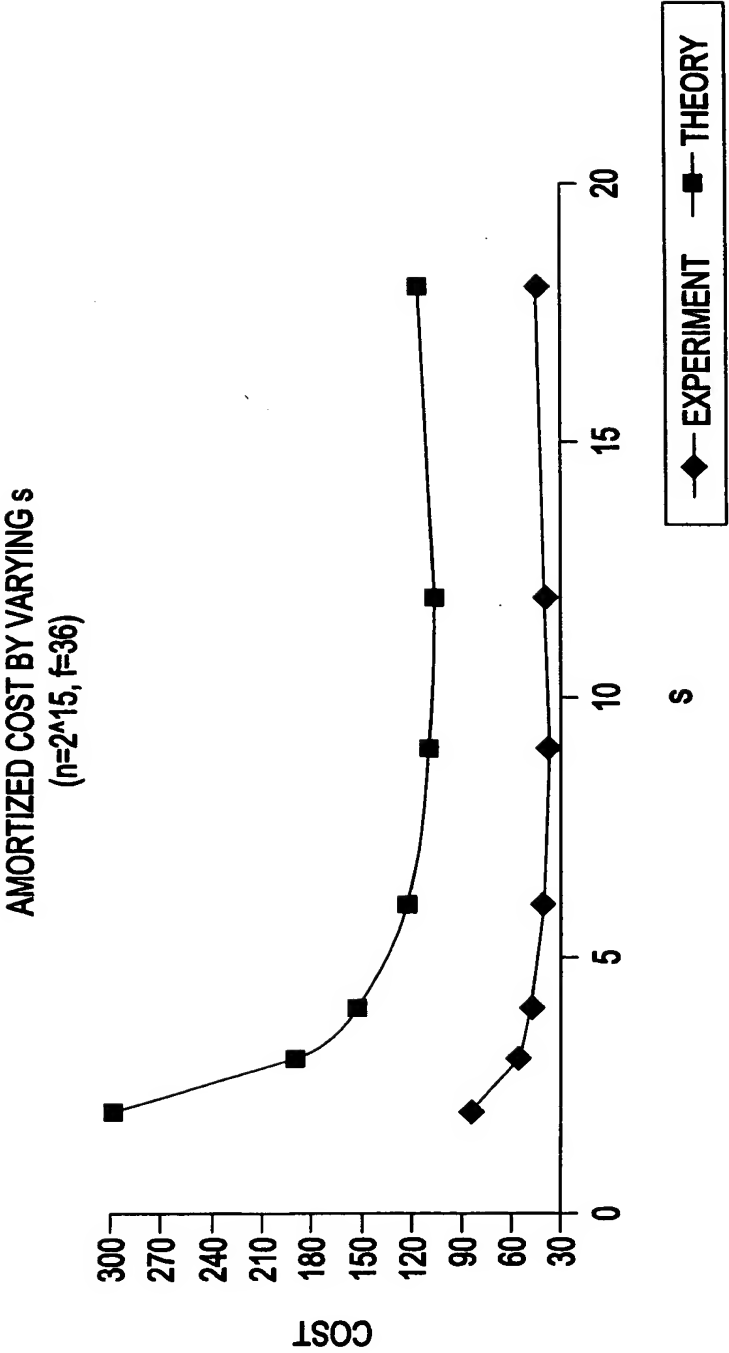


FIG.13

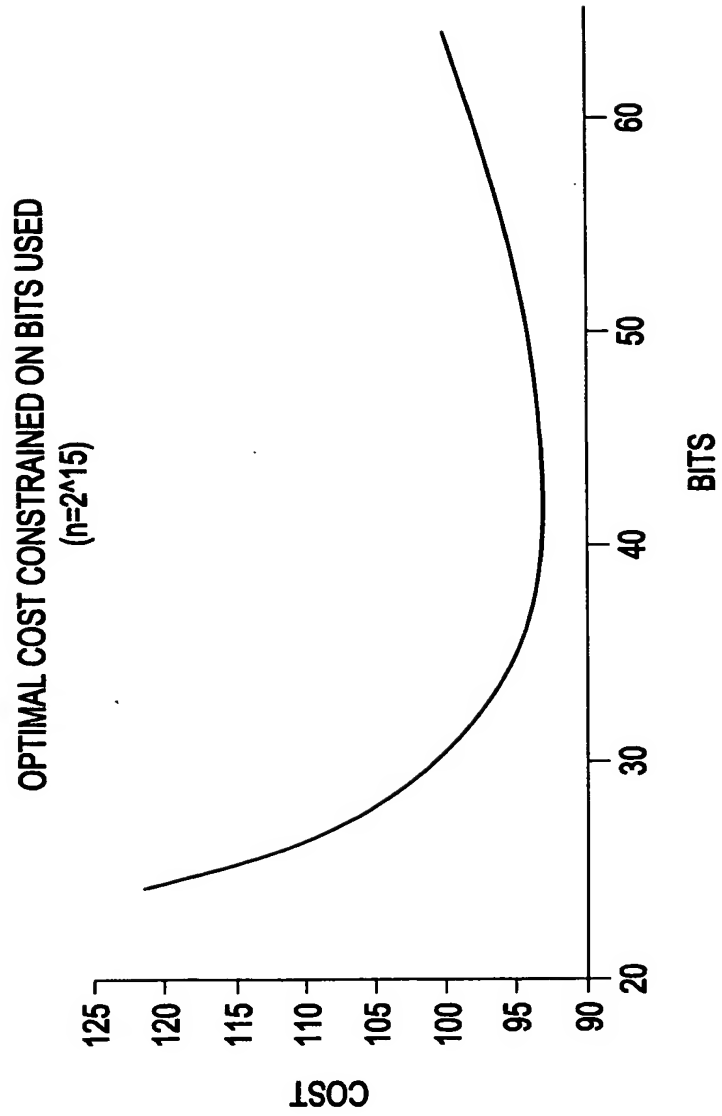


FIG.14